

We Claim:

1. A voltage stabilization circuit, comprising:

a first signal line for carrying a signal superimposed with an interference signal;

a second signal line for carrying a signal;

an amplifier circuit for generating an antiphase signal from a difference between a stabilized reference signal and a signal derived from said interference signal, said antiphase signal being in phase opposition with respect to said interference signal, said amplifier circuit including a first input;

an active matching circuit for potential matching, said matching circuit connected downstream from said amplifier circuit, said matching circuit for generating a compensation signal from said antiphase signal, said compensation signal being superposed on said signal superimposed with said interference signal; and

a reference circuit for generating said stabilized reference signal, said reference circuit connected upstream from said amplifier circuit, said reference circuit designed as a low-pass filter connected between said first signal line and said second signal line, said reference circuit including a center

tap connected to said first input of said amplifier circuit for providing said stabilized reference signal to said first input of said amplifier circuit;

said low-pass filter designed as a multistage filter or as a higher-order filter.

2. The circuit according to claim 1, further comprising:

a high-pass filter coupled at least to said first signal line;

said high-pass filter providing said signal derived from said interference signal.

3. The circuit according to claim 1, further comprising:

a capacitor for filtering out potential spikes of said signal superimposed with said interference signal on said first signal line and for filtering out potential spikes of said signal on said second signal line; and

an input configured with said capacitor.

4. The circuit according to claim 1, wherein said amplifier circuit includes a differential amplifier and a driver connected downstream from said differential amplifier.

5. The circuit according to claim 4, wherein said driver is a push-pull driver of bipolar design or a push-pull driver designed using MOS technology.

6. The circuit according to claim 1, wherein said amplifier circuit includes an operational amplifier functioning as a differential amplifier and a driver.

7. The circuit according to claim 1, further comprising:

a feedback path;

said amplifier circuit including a second input; and

said feedback path feeding said antiphase signal into said second input of said amplifier circuit as a controlled variable;

8. The circuit according to claim 1, wherein:

said matching circuit includes a resistor and a decoupling capacitor connected to said resistor upstream of said resistor;

said interference signal has an amplitude and a sign;

said resistor is dimensioned for generating said compensation signal from the said antiphase signal generated by said amplifier circuit; and

said compensation signal corresponds to said amplitude of said interference signal and has a sign that is opposite said sign of said interference signal.

9. The circuit according to claim 1, further comprising:

a voltage supply for supplying said amplifier circuit with a supply voltage.

10. The circuit according to claim 9, wherein said voltage supply is a voltage source with an internal resistor.

11. The circuit configuration according to claim 9, wherein:

said voltage supply obtains or provides a reference potential;

said voltage supply has at least two voltage sources that are symmetrically configured relative to said reference potential; and

said two voltage sources supply said amplifier circuit with supply potentials having identical magnitudes and opposite signs.

12. The circuit according to claim 9, wherein:

said voltage supply is configured as a current source connected between said first signal line and said second signal line;

said current source having an output providing at least one supply potential to said amplifier circuit.

13. The circuit according to claim 9, wherein:

said voltage supply is a compensated switched-mode power supply or a charge pump.

14. The circuit according to claim 1, further comprising:

a voltage supply for supplying said amplifier circuit with a supply voltage;

said amplifier circuit including a differential amplifier and driver.